REMARKS/ARGUMENTS

Information Disclosure Statement

The Applicant has taken notice of the observations of the Examiner with regard to the Information Disclosure Statement. Accordingly, the Applicant is currently filing an Information Disclosure Statement concerning the present invention.

Claims

Claims 1-19 are pending in the application.
Claims 5 and 7-19 are currently cancelled.
Claims 1-4 and 6 remain in the application.
Claims 1-4 and 6 are currently amended.
Claims 20-25 are new.

Claim Rejections – 35 USC § 103

Claims 1 to 19 have been rejected under 35 USC §103(a) as being obvious in view of U.S. Patent No. 4,462,568 to Taylor et al. (hereinafter "Taylor") and U.S. Patent No. 6,929,235 to Height et al. (hereinafter "Height").

A recited in the MPEP, at 2141, and as reminded in *KSR*, determination of obviousness must be based on the three-pronged *Graham* inquiry.

Scope and Content of the Prior Art

The prior art cited by the Examiner consists of Taylor and Height.

Broadly, Taylor teaches a valve 20 comprising a seal assembly 26/27 which prevents the fluid circulating in the valve 20 from leaking from the valve near the stem 24 of the valve member 23. The pressure applied to the seal assembly 26/27 can be adjusted by **at least two bolts or screws** 40 pressing on top of the seal assembly 26/27 (Fig. 1 and col. 3, lines 44-52).

For its part, Height teaches an apparatus 72' for controlling the flow rate of a fluid circulating in a flexible and compressible tube 84'. The apparatus 72' comprises a first portion 80 having formed therein a circular channel 86 adapted to receive the tube 84', and a second portion 100 adapted to be rotatably received in the first portion 80 and having a downwardly extending protuberance 112 which is received into the channel 86. As the second portion 100 is rotated with respect to the first portion 80, the protuberance 112 more or less compresses the tube 84', thereby reducing its cross-section and thereby reducing the flow of the fluid therein (Figs. 4A, 5A and 6A).

Differences Between the Claimed Invention and the Prior Art

The present invention shares some resemblances with the valve construction of Taylor. Both have a valve body, a valve member mounted therein for rotation, a stem extending from the valve member, a seal assembly mounted near the junction of the stem and the valve member, a cover and means to adjust the pressure applied onto the seal assembly.

That being said, though both the present invention and the valve of Taylor have means to adjust the pressure applied to the seal assembly, the main and most important different lies in how the adjustable means are constructed.

In that sense, it is important to note that the present invention is more directed to the adjustable means themselves than to the whole valve.

In Taylor, the means to adjust the pressure applied to the seal assembly comprises two retainer rings 28 and 29 and at least two bolts 40 (see Fig. 1) which press on the upper surface 44 of the retainer ring 28. To adjust the downward pressure applied on the seal assembly, the bolts 40 are

threaded such as to further press on the retainer ring 28. In that sense, the Applicant refers the Examiner to lines 43-52 of column 3 of Taylor, which are reproduced below:

> "The seal sub-assembly 27 is adjusted in the valve construction by adjusting screws 40 threadedly carried in threaded bores 41 in a cover member 42 of the housing means 21 which are subsequently turned in a tightening direction to cause the ends 43 of the adjusting screws 40 to bear downwardly on the upper surface 44 of the retainer 28 to tend to move the seal sub-assembly 27 downwardly in FIG. 1 for a purpose hereinafter described." (emphasis added)

The technique proposed in Taylor to adjust the seal assembly, i.e. a technique based on the threading of several bolts, is similar to the techniques proposed in U.S. Patent Nos. 3,235,272 ("Smith"), 4,475,713 ("Reed") and 5,402,983 ("Bernhardt"). Notably, Smith and Reed were cited by the Applicant in its patent application as example of the prior art.

In the present invention, the adjusting means comprise a cam which is rotatably mounted into the cover, for cooperation therewith, and which moves both rotatably about its rotation axis and linearly along its rotation axis. As the cam moves downwardly as it rotates, the lower portion of the cam, which is in contact with the seal assembly, applies further pressure thereon. To put the cam into motion, a single screw or bolt, threadedly mounted to the cover, is used. As the screw is threaded, it pushes onto the cam which then rotates.

Hence, in the present invention, a **single** screw is used to actuate the cam which uniformly presses on the seal assembly.

In Taylor, the user has to thread at least two bolts. Moreover, since the two bolts cannot be threaded simultaneously, the pressure actually transmitted to the seal assembly is not uniform, thereby increasing the probability of leakage.

Notably, in his examination report, the Examiner concluded that Taylor teaches both the single actuator and the cam. The Applicant respectfully disagrees with the conclusion.

First, the Applicant wishes to point to the Examiner that Taylor does not disclose a single actuator. As a matter of fact, the actuator 40 referred to by the Examiner in Taylor (Fig. 1) is a bolt. Moreover, upon a thorough review of Fig. 1 of Taylor, it clearly appears that there are more than one bolt 40. In fact, there is at least two of such bolts 40, a first bolt 40 on the right of the stem 24 and a second bolt 40 on the left of the stem 24 and partially hidden thereby.

Thus, the present claimed invention clearly distinguishes from Taylor by using a single screw/bolt.

Second, the Applicant wishes to point to the Examiner that Taylor does not in any way disclose or suggest a cam.

According to the Merriam-Webster dictionary, a cam is:

> "a rotating or sliding piece (as an eccentric wheel or a cylinder with an irregular shape) in a mechanical linkage used especially in transforming rotary motion into linear motion or vice versa." (emphasis added)

According to the aforementioned definition, the valve of Taylor does not comprise any cam. The Examiner referred to the element 28 of Taylor as a cam. However, element 28 of Taylor is not a cam, it is explicitly referred to as a retainer by Taylor. In addition, nowhere in the specification of Taylor is it recited that the retainer 28 transforms a rotary motion into a linear motion or vice versa. The retainer 28 of Taylor only transmits the downward linear motion of the bolts 40 since the retainer 28 does not rotate (see lines 43-52 of column 3 of Taylor).

Hence, again, the present claimed invention clearly distinguishes from Taylor by using a cam.

The present claimed invention thus clearly differs from Taylor by its use of a cam and a single screw to provide adjustment of the seal assembly.

With respect to the differences between the present invention and Height, they are undeniable. Indeed, a person skilled in the art would readily understand that the present invention and the apparatus disclosed in Height are totally different.

As discussed above, the present relates to means for adjusting the pressure applied on the seal assembly of a valve, typically a plug valve.

Height, for its part, relates to an apparatus for controlling the flow rate of a liquid circulating in a flexible and compressible tube. The apparatus of Height finds its main application in the intravenous delivery of medicines and other similar solutions. In no way Height discloses means to adjust the pressure applied to the seal assembly of a valve having an outwardly extending stem.

The Applicant acknowledges that Height discloses a cam of some sort. However, aside from the cam, the apparatus of Height is not meant to be used with a valve having valve body, a valve member having a stem extending therefrom, a seal assembly located at the junction of the stem and the valve member, a cover and means to adjust the pressure applied to the seal assembly. In addition, Height does not disclose a screw/bolt for actuating the cam.

In view of the foregoing, the Applicant does not understand how or why a person skilled in the art of valves such as the valve of the present invention or the valve of Taylor, would endeavour to look for an apparatus used for controlling the fluid administered to a patient. The technologies are simply not related. The mere fact that Height discloses a rotary cam does not provide a rationale for obviousness, the more so since Taylor does not even teach, disclose or suggest a cam.

It is not because a rotary cam is present in a device or an apparatus that is would automatically be obvious to use a rotary cam having another configuration in another unrelated device not even comprising a cam to begin with.

Consequently, in view of the foregoing, the Applicant sees absolutely no valid reasons to combine the rotary cam of Height with the valve construction of Taylor. There is no implicit or

explicit motivation to do so and there is no obvious reason to try to do so. Accordingly, the rejections of the claims should be withdrawn.

Still, in order to clarify the claimed invention, the Applicant has amended claims 1, 2, 3, 4 and 6, has cancelled claims 5 and 7-19, and has added new claims 20-25.

Level of Ordinary Skill in the Art

The level of ordinary skill in the art does not seem to be in dispute in the present case. Still, it is respectfully believed that the person skilled in the art would be skilled in the art of plug valves and other similar valve constructions.

New claims

The Applicant is respectfully submitting new claims 20-25 which include independent claim 20 and dependent claims 21-25. Claims 20-25 are believed to be patentable over the prior art. Claim 20 recites a complete valve assembly including the novel and inventive adjustable sealing device recited in amended claim 1. Claims 21 to 25 recite limitations similar in scope to those of claims 2, 3, 4, 6 and 10. Claims 20 to 25 are respectfully believed to be fully supported by the description. No new matter has been added.

Conclusion

Considering the above arguments, the Applicant respectfully requests that a timely Notice of Allowance be issued in this case for all pending claims. However, should it be found necessary or practical, the Applicant kindly invites the Examiner to telephone the undersigned, Applicant's agent of record, to facilitate the advancement of the present application.

Additional Fees

Should any other fees whatsoever be due in connection with the present patent application, the United States Patent and Trademark Office is hereby authorized to charge any such additional fees to our Deposit Account no. 50-3436.

Respectfully submitted,

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